

What is Claimed is:

1. A method for patterning printed circuit boards having coarse conductor structures and having at least one region with fine conductor structures, comprising:

applying a metal layer to an electrically insulating substrate;

applying an etch resist layer to the metal layer;

exposing contours of envisaged coarse conductor structures, by partially eroding the etch resist layer with a first laser beam with a predefined first wavelength and a first processing field size;

exposing contours of the fine conductor structures, by partially eroding the etch resist layer with a second laser beam with a predefined second wavelength and a second processing field size, at least one of the second wavelength being relatively shorter than the first wavelength and the second field size which is relatively smaller than the first field size;

producing the coarse and the fine conductor structures simultaneously by etching the exposed metal regions; and

exposing the surfaces of the conductor structures by eroding the remainder of the etch resist layer.

2. The method as claimed in claim 1, wherein the laser beam of the first laser has a wavelength between 1064 nm and 355 nm, and the laser beam of the second laser has a wavelength between 532 nm and 266 nm.

3. The method as claimed in claim 2, wherein the first laser beam has a wavelength of 1064 nm, and the second laser beam has a wavelength of at least one of 532 and 355 nm.

4. The method as claimed in claim 1, wherein the first laser includes an optical imaging unit which produces a larger focal length than an optical imaging unit of the second laser.

5. A device for patterning printed circuit boards with coarse conductor structures and with at least one region with fine conductor structures, comprising:

a support for positioning a printed circuit board;

a first laser with an optical device and an imaging unit with a first focal length, which can be positioned over the surface of the printed circuit board in such a way that it is capable of irradiating a first processing field size;

a second laser with an optical deflection optical device and an imaging unit with such a second focal length that the laser is capable of irradiating a second processing field size, wherein the second laser includes at least one of a relatively shorter wavelength than the first laser, and a second focal length and the second field size which are smaller than the first focal length and the first field size; and

a control device for respectively irradiating large fields of the printed circuit board with coarse conductor structures using the first laser and relatively small fields of the printed circuit board with relatively fine conductor structures using the second laser.

6. The device as claimed in claim 5, wherein the laser beam of the first laser has a wavelength between 1064 nm and 355 nm, and the laser beam of the second laser has a wavelength between 532 and 266 nm.

7. The device as claimed in claim 5, wherein the first field size is between $150 \times 150 \text{ mm}^2$ and $50 \times 80 \text{ mm}^2$, and the second field size is between $100 \times 100 \text{ mm}^2$ and 25×25^2 .

8. The device as claimed in claim 6, wherein the first field size is between $150 \times 150 \text{ mm}^2$ and $50 \times 80 \text{ mm}^2$, and the second field size is between $100 \times 100 \text{ mm}^2$ and 25×25^2 .

9. The method of claim 1, wherein the first processing field size is predefined by a first imaging unit.

10. The method of claim 9, wherein the second processing field size is predefined by a second imaging unit.

11. The method of claim 1, wherein the second processing field size is predefined by a second imaging unit.

12. The method of claim 2, wherein the wavelength of the second laser beam is at most equal to that of the first laser beam.

13. The device as claimed in claim 6, wherein the wavelength of the second laser beam is at most equal to that of the first laser beam.